

FOCUSED RESEARCH GROUPS IN THE MATHEMATICAL SCIENCES (FRG)

Program Solicitation

NSF-02-129

DIRECTORATE FOR MATHEMATICAL AND PHYSICAL SCIENCES
DIVISION OF MATHEMATICAL SCIENCES

LETTER OF INTENT DUE DATE(S) *(required)*: August 20, 2002

FULL PROPOSAL DEADLINE(S) :
September 20, 2002 and the third Friday of September in succeeding years.



NATIONAL SCIENCE FOUNDATION



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GENERAL INFORMATION

Program Title: FOCUSED RESEARCH GROUPS IN THE MATHEMATICAL SCIENCES (FRG)

Synopsis of Program: The purpose of the FRG activity is to allow groups of researchers to respond to recognized scientific needs of pressing importance, to take advantage of current scientific opportunities, or to prepare the ground for anticipated significant scientific developments in the mathematical sciences. Groups may include, in addition to mathematical scientists, researchers from other science and engineering disciplines appropriate to the proposed research. The activity will support projects for which the collective effort by a group of researchers is necessary to reach the scientific goals. Projects should be scientifically focused and well-delineated. It is not the intent of this activity to provide general support for infrastructure. Projects should also be timely, limited in duration to up to three years, and substantial in their scope and impact.

Cognizant Program Officer(s):

- Dr. Helen G. Grundman, Algebra, Number Theory & Combinatorics Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4876, e-mail: hgrundma@nsf.gov.
- Dr. Joe W. Jenkins, Analysis Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4870, e-mail: jjenkins@nsf.gov.
- Dr. Deborah F. Lockhart, Applied Mathematics Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4858, e-mail: dlockhar@nsf.gov.
- Dr. Benjamin M. Mann, Geometric Analysis, Topology & Foundations Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4867, e-mail: bmann@nsf.gov.
- Dr. John Stufken, Statistics and Probability Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4881, e-mail: jstufken@nsf.gov.
- Dr. Henry A. Warchall, Applied Mathematics Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4861, e-mail: hwarcha@nsf.gov.

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.049 --- Mathematical and Physical Sciences

ELIGIBILITY INFORMATION

- **Organization Limit:** The categories of proposers identified in the NSF [*Grant Proposal Guide*](#) (GPG) are eligible to submit proposals under this program announcement/solicitation.
- **PI Eligibility Limit:** Unaffiliated scientists are not eligible to submit a proposal, but may be eligible for support. The GPG guidelines (chapter I.C) apply in this case.
- **Limit on Number of Proposals:** None

AWARD INFORMATION

- **Anticipated Type of Award:** Standard or Continuing Grant
- **Estimated Number of Awards:** Approximately 15 awards annually
- **Anticipated Funding Amount:** Approximately \$12 million will be available for this activity annually, subject to availability of funds

PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is required. Please see the full program announcement/solicitation for further information.
- **Full Proposals:** Supplemental Preparation Guidelines
 - The program announcement/solicitation contains supplements to the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full program announcement/solicitation for further information.

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required.
- **Indirect Cost (F&A) Limitations:** None
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full program announcement/solicitation for further information.

C. Deadline/Target Dates

- **Letters of Intent (*required*):** August 20, 2002
- **Preliminary Proposals (*optional*):** None
- **Full Proposal Deadline Date(s):**

September 20, 2002 and the third Friday of September in succeeding years.

D. FastLane Requirements

- **FastLane Submission:** Required
- **FastLane Contact(s):**
 - LaVern Friels, Computer Specialist, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4854, e-mail: dmsfl@nsf.gov.

PROPOSAL REVIEW INFORMATION

- **Merit Review Criteria:** National Science Board approved criteria. Additional merit review considerations apply. Please see the full program announcement/solicitation for further information.

AWARD ADMINISTRATION INFORMATION

- **Award Conditions:** Standard NSF award conditions apply.
- **Reporting Requirements:** Standard NSF reporting requirements apply.

I. INTRODUCTION

The Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) expects to make a small number of awards annually that will support the activities of groups of investigators. Proposals for these Focused Research Groups (FRG) in the Mathematical Sciences should provide a plan for making significant progress in scientifically focused areas of recognized or emerging importance to the mathematical sciences and explain that the success of the proposed research project depends in a crucial way upon a group effort.

DMS employs the individual investigator award as the principal mechanism for supporting fundamental research in the mathematical sciences. On the other hand, the mathematical sciences thrive on the sharing of ideas, and there are research needs that can only be met appropriately by teams of researchers. The advantages of pooled insights, complementary expertise, diverse points of view, and shared tasks make a successful research team more than the sum of its parts. DMS will continue to support excellent multi-investigator projects in a variety of modes to promote research collaboration, the exploration of multidisciplinary projects, and the exploitation of unique opportunities for progress on significant problems. A dedicated mode of support for such scientifically focused projects is provided by the FRG activity.

II. PROGRAM DESCRIPTION

The purpose of the FRG activity is to allow groups of researchers to respond to recognized scientific needs of pressing importance, to take advantage of current scientific opportunities, or to prepare and solidify the ground for anticipated scientific developments in the mathematical sciences. Groups may include, in addition to mathematical scientists, researchers from other scientific and engineering disciplines appropriate to the proposed research. Projects supported under this activity should be essentially collaborative in nature and depend for their advancement on the interaction of a group of researchers. Projects should be scientifically focused and well-delineated. It is not the intent of this activity to provide general support for infrastructure. Projects should also be timely, limited in duration to up to three years, and substantial in both their scope and likely impact.

Here is a list, by no means exhaustive, of indicators suggesting that an FRG approach might be appropriate.

- Accumulated scientific results point to the possibility of a major breakthrough.
- A major recent breakthrough has created new possibilities for significant progress.
- An existing important scientifically focused research agenda needs close cooperation of several researchers to be advanced or can be significantly accelerated through such cooperation.

- Significant opportunities for productive mutual exchange between areas within the mathematical sciences or between mathematical and other scientific areas have recently become apparent.
- A substantial mathematical research agenda is waiting to be formulated and exploited, because a specific area in science or engineering is ready for closer interaction with the mathematical sciences.

The aim of the activity is to support projects for which the collective effort by a group of researchers is necessary to reach the scientific goals in a timely manner. Thus, proposals must explain that interaction and group effort are critical to the success of the project. The scientific personnel involved in the project should consist of at least three researchers. The group members can, but are not required to, come from more than one institution or discipline. Awards made under the FRG activity are intended to foster a crucial and unusual synergy between the group members that cannot be achieved with individual grants. In particular, researchers supported by this activity are expected to collaborate closely and intensely during the project on a well-delineated topic. At the same time, the impact and promise of supported projects should be broad, significant, and long-term.

Examples of possible outcomes for FRG projects include the following:

- Substantial progress is made toward solution of a set of major open questions.
- New research directions that have become possible due to recent advances are identified, and significant progress is achieved.
- As a direct result of the group effort, an important scientifically focused research agenda is advanced significantly.
- Significant new opportunities for productive mutual exchange between different areas in the mathematical sciences are identified and progress is made towards exploiting these opportunities.
- Significant new opportunities for the mathematical sciences in areas of science and engineering are identified, and exemplary evidence of how to seize and exploit these opportunities is produced.

Additional possible outcomes include the following:

- Graduate students and postdoctoral researchers are trained in an important emerging area.

- Graduate students, postdoctoral researchers, and undergraduates are trained in new ways. This could include, but is not limited to, interdisciplinary training or training in team-based research.
- New and exemplary modes of collaborations are established.

FRG projects should take advantage of opportunities and resources at or near the institutions at which the research will be performed. Research groups are expected to remain open to the broader scientific community from which they are drawn and to disseminate the results of their work in a timely and effective fashion.

The section above lists just a few examples of projects and outcomes for FRG projects. Proposers are strongly urged to discuss their ideas for an FRG project with one of the program directors listed at the end of this document.

III. ELIGIBILITY INFORMATION

The categories of proposers identified in the NSF [Grant Proposal Guide](#) (GPG) are eligible to submit proposals under this program announcement/solicitation.

Proposals involving investigators from more than one institution are allowed and should be submitted as collaborative proposals (see instructions below). Prospective applicants are strongly urged to contact the program directors listed at the end of this document for guidance.

Unaffiliated scientists are not eligible to submit a proposal, but may be eligible for support. The GPG guidelines (chapter I.C) apply in this case.

IV. AWARD INFORMATION

Under this solicitation, proposals may be submitted for any funding amount from \$150,000 up to \$350,000 per year, for up to three years. Grants may be awarded in a variety of sizes and durations. NSF expects to fund approximately fifteen awards annually, depending on the quality of submissions and the availability of funds. The anticipated date of awards is April of each year.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent: To expedite the review process for FRG proposals, a one-page e-mail letter of intent to submit a proposal must be sent by the PI to dms-frg@nsf.gov by 5:00

PM, proposer's local time, on Tuesday, August 20, 2002, and one month in advance of the proposal due date in succeeding years. This letter of intent should contain the following information:

- the title of the project,
- a brief project description,
- the names of the principal investigators and other senior personnel, and
- the name of the submitting institution.

Failure to meet the letter of intent deadline will disqualify an FRG proposal from consideration. Letters of intent are not evaluated for scientific merit; rather, they are used to assemble review panels with appropriate expertise. Please direct any questions about the letter of intent to one of the Cognizant Program Officers listed as Contacts for Additional Information.

Full Proposal:

Proposals submitted in response to this program announcement/solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF *Grant Proposal Guide* (GPG). The complete text of the GPG is available electronically on the NSF Web Site at: <http://www.nsf.gov/cgi-bin/getpub?gpg>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from pubs@nsf.gov.

1. Proposal

All proposals must be submitted via FastLane by 5:00 PM, proposer's local time, on Friday, September 20, 2002, and the third Friday of September in succeeding years. Failure to meet the proposal deadline will disqualify an FRG proposal from consideration.

Proposals involving investigators from more than one institution should be submitted as collaborative proposals. Proposers should consult the GPG Section II.C.11.b on simultaneous submission of collaborative proposals, specifically the submission of proposals from different organizations using electronic submission.

Proposals from lead institutions must contain the following elements in the order indicated. The general requirements given in the GPG apply, unless specified differently below. Proposers are reminded that a complete proposal must in addition contain single-copy documents as specified in the GPG, chapter II.C.

(a) Cover sheet. To facilitate timely processing, the title of the proposed project should begin with the four characters "FRG:"

(b) Project Summary, up to 250 words.

(c) Table of Contents - This form will be generated automatically by FastLane.

(d) Project Description.

- Proposed Research. Narrative, not to exceed twenty pages, consisting of the following items:
 - An explanation of the scientific context and timeliness of the proposed project.
 - A description of the proposed research.
 - A justification for why a group effort is necessary to carry out the proposed project.
 - A timeline for the planned work and a justification for the duration.
 - Plans for disseminating the results.
 - Results from prior NSF support, if applicable and related to the proposal.
- Modes of Collaboration and Training. The following components, not to exceed an additional five pages total, are optional and can be included if appropriate:
 - A description of new modes of collaboration.
 - A description of new modes of training graduate students, postdoctoral researchers, or undergraduates.
 - A description of planned workshops and a list of tentative participants.
- Management Plan. Provide a management plan, describing how the group effort will be coordinated and how decisions will be made regarding the conduct of the project. This section may not exceed one page.

(e) References Cited.

(f) Biographical sketches. For all key personnel, please provide a brief biographical sketch. Do not exceed two pages per person for the sketch. Up to five publications most closely related to the proposal and up to five other significant publications may be included, including those accepted for publication. For each individual, include up to one additional page describing how that individual will contribute to the project.

(g) Budget. Include a proposed budget using NSF Standard FastLane Form, with separate annual budgets for each year, and a detailed budget justification (up to 3 pages). A cumulative budget will be automatically generated by the FastLane system.

(h) Current and Pending Support. A full description of the total level of current and pending support from all sources for the key personnel.

(i) Facilities. A description of the facilities (including laboratories and computational facilities) that will be made available to the project.

The page limits and the limits on listed publications in the biographical sketches will be strictly enforced. Proposals not adhering to these limitations will not be considered for funding.

2. Signed Cover Sheet

Cover sheet: The proposal must be electronically signed in accordance with the instructions presented in Section D ("FastLane Requirements") below.

Proposers are reminded to identify the program solicitation number (NSF-02-129) in the program announcement/solicitation block on the proposal Cover Sheet. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

B. Budgetary Information

Cost sharing is not required in proposals submitted under this Program Solicitation.

Indirect Cost (F&A) Limitations: None

Other Budgetary Limitations: Award size is limited to between \$150,000 and \$350,000 per year for up to three years duration

C. Deadline/Target Dates

Proposals must be submitted by the following date(s):

Letters of Intent (*required*): August 20, 2002

Full Proposals by 5:00 PM local time:

September 20, 2002 and the third Friday of September in succeeding years.

E-mail letters of intent in response to this announcement must be submitted to dms-frg@nsf.gov by 5:00 PM local time on Tuesday, August 20, 2002, and one month in advance of the proposal due date in succeeding years.

D. FastLane Requirements

Proposers are required to prepare and submit all proposals for this Program Solicitation through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at: <http://www.fastlane.nsf.gov/a1/newstan.htm>. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related

to the use of the FastLane system. Specific questions related to this Program Solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this announcement/solicitation.

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see [Chapter II, Section C](#) of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Proposers are no longer required to provide a paper copy of the signed Proposal Cover Sheet to NSF. Further instructions regarding this process are available on the FastLane website at: <http://www.fastlane.nsf.gov>.

VI. PROPOSAL REVIEW INFORMATION

A. NSF Proposal Review Process

Reviews of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program Officers charged with the oversight of the review process. NSF invites the proposer to suggest, at the time of submission, the names of appropriate or inappropriate reviewers. Care is taken to ensure that reviewers have no conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority-serving institutions, or adjacent disciplines to that principally addressed in the proposal.

The two merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which he/she is qualified to make judgments.

What is the intellectual merit of the proposed activity?

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research

and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

NSF staff will give careful consideration to the following in making funding decisions:

Integration of Research and Education

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

Integrating Diversity into NSF Programs, Projects, and Activities

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

Additional Review Criteria

In addition to the National Science Board merit review criteria, reviewers will be asked to apply several specific criteria when reviewing FRG proposals. These criteria include:

- Extent to which the whole of the proposed group effort project will be greater than the sum of its parts
- Extent to which the group effort is focused on a cohesive well-delineated goal
- Timeliness of the planned work
- Likelihood of substantial progress
- Long-term scientific impact of the proposed activity
- Appropriateness of the group members and group structure for the task
- Appropriateness of the proposed modes of collaboration
- Adequacy of the management plan
- Adequacy and appropriateness of the proposed timeline
- Adequacy of the plans for dissemination
- Adequacy and appropriateness of the budget
- Effectiveness, adequacy, and innovation of training plans

FRG proposals are likely to be read by non-specialists at some stage of the review process. It is therefore particularly important that they be written to emphasize the impact of the projects in a broad mathematical context.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the identities of reviewers, are sent to the Principal Investigator/Project Director by the Program Director. In addition, the proposer will receive an explanation of the decision to award or decline funding.

B. Review Protocol and Associated Customer Service Standard

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this announcement/solicitation will be reviewed by Mail and/or Panel Review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the closing date of an announcement/solicitation or the date of proposal receipt (whichever is later). The interval ends when the Division Director accepts the Program Officer's recommendation.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at one's own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See section VI.A. for additional information on the review process.)

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (NSF-GC-1)* or Federal Demonstration Partnership (FDP) Terms and Conditions;* and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1). Electronic mail notification is the preferred way to transmit NSF awards to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

*These documents may be accessed electronically on NSF's Web site at http://www.nsf.gov/home/grants/grants_gac.htm. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from pubs@nsf.gov.

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF Web site at <http://www.nsf.gov/cgi-bin/getpub?gpm>. The GPM is also for sale through the Superintendent of Documents, Government Printing Office (GPO), Washington, DC 20402. The telephone number at GPO for subscription information is (202) 512-1800. The GPM may be ordered through the GPO Web site at <http://www.gpo.gov>.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

NSF has implemented an electronic project reporting system, available through FastLane. This system permits electronic submission and updating of project reports, including information on project participants (individual and organizational), activities and findings, publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

VIII. CONTACTS FOR ADDITIONAL INFORMATION

General inquiries regarding FOCUSED RESEARCH GROUPS IN THE MATHEMATICAL SCIENCES should be made to:

- Dr. Helen G. Grundman, Algebra, Number Theory & Combinatorics Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4876, e-mail: hgrundma@nsf.gov.
- Dr. Joe W. Jenkins, Analysis Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4870, e-mail: jjenkins@nsf.gov.
- Dr. Deborah F. Lockhart, Applied Mathematics Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4858, e-mail: dlockhar@nsf.gov.
- Dr. Benjamin M. Mann, Geometric Analysis, Topology & Foundations Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4867, e-mail: bmenn@nsf.gov.
- Dr. John Stufken, Statistics and Probability Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4881, e-mail: jstufken@nsf.gov.
- Dr. Henry A. Warchall, Applied Mathematics Program, Program Director, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4861, e-mail: hwarcha@nsf.gov.

For questions related to the use of FastLane, contact:

- LaVern Friels, Computer Specialist, Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences, 1025, telephone: 703-292-4854, e-mail: dmsfl@nsf.gov.

IX. OTHER PROGRAMS OF INTEREST

The NSF *Guide to Programs* is a compilation of funding for research and education in science, mathematics, and engineering. The NSF *Guide to Programs* is available electronically at <http://www.nsf.gov/cgi-bin/getpub?gp>. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter.

Many NSF programs offer announcements or solicitations concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices. Any changes in NSF's fiscal year programs occurring after press time for the *Guide to Programs* will be announced in the NSF [E-Bulletin](#),

which is updated daily on the NSF web site at <http://www.nsf.gov/home/ebulletin>, and in individual program announcements/solicitations. Subscribers can also sign up for NSF's [Custom News Service](http://www.nsf.gov/home/cns/start.htm) (<http://www.nsf.gov/home/cns/start.htm>) to be notified of new funding opportunities that become available.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Awardees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

NSF welcomes proposals from all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities and persons with disabilities to compete fully in its programs. In accordance with Federal statutes, regulations and NSF policies, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NSF (unless otherwise specified in the eligibility requirements for a particular program).

Facilitation Awards for Scientists and Engineers with Disabilities (FASSED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the program announcement/solicitation for further information.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090, FIRS at 1-800-877-8339.

The National Science Foundation is committed to making all of the information we publish easy to understand. If you have a suggestion about how to improve the clarity of this document or other NSF-published materials, please contact us at plainlanguage@nsf.gov.

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to applicant institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Information Dissemination Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230, or to Office of Information and Regulatory Affairs of OMB, Attention: Desk Officer for National Science Foundation (3145-0058), 725 17th Street, N.W. Room 10235, Washington, D.C. 20503.

OMB control number: 3145-0058.